Message

From: LEE, LILY [LEE.LILY@EPA.GOV]
Sent: 8/25/2018 6:12:04 PM
To: Chesnutt, John [Chesnutt.John@epa.gov]
Subject: Other parcels - how many trenches need excavation
Attachments: Sampling Size Needed to Meet 95% Confidence.pdf

As you requested, here are calculations for trenches. The attached shows supplemental information. I asked Donna to

1. add a column for % of total
2. remove the fill units, since we are combining them w/trench units
3. do calculations for building site survey units. (But I will ask Navy to give to me in table form so I don't have to go one by one by Parcel)

But I told her not to do this until after finishing SAP.

TABLE 1. TRENCH UNIT CALCULATIONS

Parcel	Number of Trench Units in the Parcel	Number of Targeted Samples Required to be 95% Confident that at least 95% of the Trench Units are Acceptable
B	70	21
C	69	21
D-2	7	6
E	55	20
UC-1	12	9
UC-2	8	6
UC-3	21	13

Note: Targeted samples are assumed to be 2 times as likely to be unacceptable.

From Donna (I cut & pasted from several emails, so this is a little disjointed):

I am using the same approach that we used for Parcel G. I have also put together a graph to show you the functional relationship of confidence, sample size etc., It gives perspective on the tabulated sample sizes.

I have done the calculations for the remaining Parcels to determine the number of soil survey units that would need to be clean to achieve 95% confidence that 95% of soil survey units (fill units) in the entire parcel are clean, assuming that the survey units chosen to be excavated first are twice as likely to be contaminated than if selected at random.

please find the following attachment showing each parcel the number of soil survey units and fill units. Region 9 was very pleased with the analysis already done for Parcel G to determine the number of soil survey units that would need to

be clean to achieve 95% confidence that 95% of soil survey units in the entire parcel are clean, assuming that the survey units chosen to be excavated first are twice as likely to be contaminated than if selected at random.

The request is to calculate the same for all parcels for both soil survey units and fill units.